

AMENDMENTS TO THE CLAIMS

Claims 1-2 (Canceled)

Claim 3 (Currently Amended)

A liquid jetting apparatus comprising:

a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction,

a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data,

a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof,

a measuring timer for measuring at least a part of a time since a previous operation of the recovering unit has been completed, and

a controller for controlling the recovering unit based on the time measured by the measuring timer, ~~A liquid jetting apparatus according to claim 1, wherein:~~

wherein:

the head-scanning mechanism is adapted to move the head from a waiting position in the main scanning direction after the head has received the jetting data, and to move back the head to the waiting position again, and

the measuring timer is adapted to measure a time since the head has been moved back to the waiting position again after being moved in the main scanning direction until the head completes receiving the jetting data.

Claim 4 (Canceled)

Claim 5 (Currently Amended)

A liquid jetting apparatus according to claim ~~35~~ 4, wherein: the head-scanning mechanism is adapted ~~not~~ to not move the head to an area over a position to which a last drop of the liquid is jetted in the one scanning movement in the main scanning direction, and the controller is adapted to control the recovering unit; in dependence ~~dependently~~ on a

distance for which the head is moved in a next scanning movement in the main scanning direction, based on the jetting data corresponding to the next scanning movement.

Claim 6 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:

the head-scanning mechanism is adapted ~~not to~~ not move the head to an area over a position to which a last drop of the liquid is jetted in the one scanning movement in the main scanning direction, and

the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on a distance for which the head has been moved in a previous scanning movement in the main scanning direction.

Claim 7 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:

the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on a distance for which the head is to be moved until a first drop of the liquid is jetted in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 8 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:

the head has a plurality of nozzles,

the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~, and

the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on respective distances for which the head is to be moved until respective first drops of the liquid are jetted from the respective nozzles in a next scanning movement in the main scanning direction, based on the jetting data corresponding to the next scanning movement.

Claim 9 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein: the

controller is adapted to control the recovering unit, ~~dependently~~ in dependence on a proportion of the liquid jetted in a previous scanning movement in the main scanning direction.

Claim 10 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:
the head has a plurality of nozzles,
the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~, and
the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on respective proportions of the liquid jetted from the respective nozzles in a previous scanning movement in the main scanning direction.

Claim 11 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:
the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on a proportion of the liquid to be jetted in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 12 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:
the head has a plurality of nozzles,
the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~, and
the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on respective proportions of the liquid to be jetted from the respective nozzles in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 13 (Currently Amended) A liquid jetting apparatus according to claim 35 4, wherein:
the head has a plurality of nozzles in which a plurality of kinds of liquid are used, ~~respectively~~,
the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~, and
the controller is adapted to control the recovering unit; based on characteristics of the ~~respective~~ kinds of liquid used in the ~~respective~~ nozzles.

Claim 14 (Currently Amended) A liquid jetting apparatus according to claim 35 †, further comprising:

 a sensor for detecting a state of the environment where the liquid jetting apparatus is used, wherein _____
_____the controller is adapted to control the recovering unit; based on an output from the sensor.

Claim 15 (Currently Amended) A liquid jetting apparatus according to claim 35 †, further comprising:

 a capping unit capable of being moved between a position away from the head and a position for coming in contact with the head in order to seal the nozzle, _____
wherein _____
_____the controller is adapted to bring the capping unit in contact with the head; based on the time measured by the measuring timer.

Claim 16 (Currently Amended) A liquid jetting apparatus according to claim 35 †, wherein:
 the recovering unit is a minutely-vibrating unit for causing the liquid in the nozzle to minutely vibrate.

Claim 17 (Original) A liquid jetting apparatus according to claim 16, wherein:
 the recovering unit is a flushing unit for causing the liquid in the nozzle to jet out from the nozzle outside an objective jetting area.

Claims 18-19 (Canceled)

Claim 20 (Currently Amended) A controlling unit for controlling a liquid jetting apparatus including: a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction; a head-scanning mechanism for moving the head in the main

scanning direction after the head has received the jetting data; a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof; and a measuring timer for measuring at least a part of a time since a previous operation of the recovering unit has been completed;

wherein:

the controlling unit is adapted to control the recovering unit based on the time measured by the measuring timer; ~~A controlling unit according to claim 18, wherein:~~

the head-scanning mechanism is adapted to move the head from a waiting position in the main scanning direction after the head has received the jetting data, and to move ~~back~~ the head back to the waiting position again, and

the measuring timer is adapted to measure a time since the head has been moved back to the waiting position again after being moved in the main scanning direction until the head completes receiving the jetting data.

Claim 21 (Canceled)

Claim 22 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the head-scanning mechanism is adapted ~~not~~ to not move the head to an area over a position to which a last drop of the liquid is jetted in the one scanning movement in the main scanning direction, and

the controlling unit is adapted to control the recovering unit; ~~dependently~~ in dependence on a distance for which the head is to be moved in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 23 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the head-scanning mechanism is adapted ~~not~~ to not move the head to an area over a position to which a last drop of the liquid is jetted in the one scanning movement in the main scanning direction, and

the controlling unit is adapted to control the recovering unit, ~~dependently~~ in dependence on a distance for which the head has been moved in a previous scanning movement in the main scanning direction.

Claim 24 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the controlling unit is adapted to control the recovering unit, ~~dependently~~ in dependence on a distance for which the head is to be moved until a first drop of the liquid is jetted in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 25 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the head has a plurality of nozzles,
the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~; and
the controlling unit is adapted to control the recovering unit, ~~dependently~~ in dependence on respective distances for which the head is to be moved until respective first drops of the liquid are jetted from the respective nozzles in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 26 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the controlling unit is adapted to control the recovering unit, ~~dependently~~ in dependence on a proportion of the liquid jetted in a previous scanning movement in the main scanning direction.

Claim 27 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the head has a plurality of nozzles,
the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~; and

the controlling unit is adapted to control the recovering unit, ~~dependently~~ in dependence on respective proportions of the liquid jetted from the respective nozzles in a previous scanning movement in the main scanning direction.

Claim 28 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the controller is adapted to control the recovering unit, ~~dependently~~ in dependence on a proportion of the liquid to be jetted in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 29 (Currently Amended) A controlling unit according to claim 36 ~~21~~, wherein:

the head has a plurality of nozzles,

the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~, and

the controlling unit is adapted to control the recovering unit, ~~dependently~~ in dependence on respective proportions of the liquid to be jetted from the respective nozzles in a next scanning movement in the main scanning direction; based on the jetting data corresponding to the next scanning movement.

Claim 30 (Currently Amended) A controlling unit according to claim 36 ~~18~~, wherein:

the head has a plurality of nozzles in which a plurality of kinds of liquid are used; ~~respectively~~,

the recovering unit is adapted to recover a suitable viscosity of liquid in each of the plurality of nozzles from an increased viscosity thereof, ~~respectively~~, and

the controlling unit is adapted to control the recovering unit; based on characteristics of the ~~respective~~ kinds of liquid used in the ~~respective~~ nozzles.

Claim 31 (Currently Amended) A controlling unit according to claim 36 ~~18~~, wherein:

the liquid jetting apparatus further includes a sensor for detecting a state of the environment where the liquid jetting apparatus is used, and

the controlling unit is adapted to control the recovering unit; based on an output from the sensor.

Claim 32 (Currently Amended) A controlling unit according to claim ~~36~~ 18, wherein:

the liquid jetting apparatus further includes a capping unit capable of being moved between a position away from the head and a position for coming in contact with the head in order to seal the nozzle, and

the controlling unit is adapted to bring the capping unit in contact with the head; based on the time measured by the measuring timer.

Claims 33-34 (Canceled)

Claim 35 (New) A liquid jetting apparatus comprising:

a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction,

a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data,

a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof,

a measuring timer for measuring at least a part of a time since a previous operation of the recovering unit has been completed, and

a controller for controlling an amount of execution of operation of the recovering unit based on both the time measured by the measuring timer and the jetting data.

Claim 36 (New) A controlling unit for controlling a liquid jetting apparatus, including: a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in

a main scanning direction; a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data; a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof; and a measuring timer for measuring at least a part of a time since a previous operation of the recovering unit has been completed; wherein:

the controlling unit is adapted to control an amount of execution of operation of the recovering unit based on both the time measured by the measuring timer and the jetting data.

Claim 37 (New) A storage unit capable of being read by a computer, storing a program for controlling a liquid jetting apparatus including: a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction; a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data; a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof; and a measuring timer for measuring at least a part of a time since a previous operation of the recovering unit has been completed; wherein:

the program is adapted to control an amount of execution of operation of the recovering unit based on both the time measured by the measuring timer and the jetting data.

Claim 38 (New) A storage unit capable of being read by a computer, storing a program including a command for controlling a second program executed by a computer system including a computer, the program being executed by the computer system to control the second program to control a liquid jetting apparatus including: a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction; a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data; a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof; and a measuring timer for measuring at least a part of a time since a previous operation of the recovering unit has been completed; wherein:

the second program is adapted to control an amount of execution of operation of the recovering unit based on both the time measured by the measuring timer and the jetting data.

Claim 39 (New) A liquid jetting apparatus comprising:

a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction,

a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data,

a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof, and

a controller for controlling the recovering unit in dependence on a distance for which the head is to be moved until a first drop of the liquid is jetted in a next scanning movement in the main scanning direction based on the jetting data corresponding to the next scanning movement.

Claim 40 (New) A controlling unit for controlling a liquid jetting apparatus including: a head having a nozzle, adapted to receive jetting data corresponding to one scanning movement in a main scanning direction; a head-scanning mechanism for moving the head in the main scanning direction after the head has received the jetting data; and a recovering unit for recovering a suitable viscosity of liquid in the nozzle from an increased viscosity thereof; wherein:

the controlling unit is adapted to control the recovering unit in dependence on a distance for which the head is to be moved until a first drop of the liquid is jetted in a next scanning movement in the main scanning direction based on the jetting data corresponding to the next scanning movement.